EPA SC03 DRIVING SCHEDULE—Continued
[Speed versus Time Sequence]

Time (sec)	Speed (mph)
520	0.0
521	0.0
522	0.0
523	0.0
524	0.0
525	0.0
526	0.0
527	0.0
528	0.0
529	0.0
530	0.0
531	0.0
532	0.0
533	0.0
534	0.0
535	0.0
536	0.0
537	0.6
538	3.3
539	5.9
540	8.9
541	10.2
542	10.4
543	9.9
544	9.9
545	10.5
546	11.3
547	12.4
548	12.8
549	14.0
550	14.6
551	15.5
552	17.0
553	17.5
554	18.1
555	18.4
556	18.5
557	18.2
558	18.5
559	18.3
560	18.2
561	17.9
562	17.7
563	17.7
564	17.3
565	17.4
566	16.8
567	17.5
568	17.7
569	17.5

EPA SC03 DRIVING SCHEDULE—Continued
[Speed versus Time Sequence]

Time (sec)	Speed (mph)
570	17.6
571	17.3
572	17.4
573	17.6
574	17.6
575	17.9
576	18.0
577	17.8
578	17.7
579	17.5
580	17.7
581	17.7
582	18.1
583	18.4
584	19.2
585	18.9
586	18.0
587	15.6
588	13.3
589	10.0
590	7.7
591	5.8
592	3.7
593	2.4
594	0.0
595	0.0
596	0.0
597	0.0
598	0.0
599	0.0
600	0.0

[42 FR 32989, June 28, 1977, as amended at 43 FR 52924, Nov. 14, 1978; 45 FR 4214, Jan. 21, 1980; 48 FR 1465, Jan. 12, 1983; 48 FR 52239, Nov. 16, 1983; 49 FR 48148, Dec. 10, 1984; 52 FR 47876, Dec. 16, 1987; 54 FR 14612, Apr. 11, 1989; 58 FR 16067, Mar. 24, 1993; 61 FR 54901, Oct. 22, 1996; 63 FR 23501, Apr. 29, 1998; 70 FR 40443, July 13, 2005]

APPENDIX II TO PART 86—TEMPERATURE SCHEDULES

(a) Ambient temperature cycle for the diurnal emission portion of the evaporative emission test (see §86.133).

TABLE I—TEMPERATURE VERSUS TIME SEQUENCE

Use linear interpolation between hourly temperatures

Time (min)	Temp. (°F)	Time (min)	Temp. (°F)	Time (min)	Temp. (°F)
0	72.0	60	72.5	120	75.5
180	80.3	240	85.2	300	89.4
360	93.1	420	95.1	480	95.8
540	96.0	600	95.5	660	94.1
720	91.7	780	88.6	840	85.5
900	82.8	960	80.9	1020	79.0
1080	77.2	1140	75.8	1200	74.7
1260	73.9	1320	73.3	1380	72.6
1440	72.0	1500	72.5	1560	75.5
1620	80.3	1680	85.2	1740	89.4
1800	93.1	1860	95.1	1920	95.8
1980	96.0	2040	95.5	2100	94.1
2160	91.7	2220	88.6	2280	85.5

TABLE I—TEMPERATURE VERSUS TIME SEQUENCE—Continued

Use linear interpolation between hourly temperatures					
Time (min)	Temp. (°F)	Time (min)	Temp. (°F)	Time (min)	Temp. (°F)
2340	82.8	2400	80.9	2460	79.0
2520	77.2	2580	75.8	2640	74.7
2700	73.9	2760	73.3	2820	72.6
2880	72.0	2940	72.5	3000	75.5
3060	80.3	3120	85.2	3180	89.4
3240	93.1	3300	95.1	3360	95.8
3420	96.0	3480	95.5	3540	94.1
3600	91.7	3660	88.6	3720	85.5
3780	82.8	3840	80.9	3900	79.0
3960	77.2	4020	75.8	4080	74.7
4140	73.9	4200	73.3	4260	72.6
4320	72.9				

[58 FR 16070, Mar. 24, 1993]

APPENDIX III TO PART 86—CONSTANT VOLUME SAMPLER FLOW CALIBRATION

The following calibration procedure outlines the equipment, the test setup configuration, and the various parameters which must be measured to establish the flow rate of the constant volume sampler pump. All the parameters related to the pump are simultaneously measured with the parameters related to a flowmeter which is connected in series with the pump. The calculated flow rate (ft^3/rev@ pump inlet absolute pressure and temperature) can then be plotted versus a correlation function which is the value of a specific combination of pump parameters. The linear equation which relates the pump flow and the correlation function is then determined. In the event that a CVS has a multiple speed drive, a calibration for each range should be performed.

This calibration procedure is based on the measurement of the absolute values of the pump and flowmeter parameters that relate the flow rate at each point. Three conditions must be maintained to assure the accuracy and integrity of the calibration curve. First, the pump pressures should be measured at taps on the pump rather than at the external piping on the pump inlet and outlet. Pressure taps that are mounted at the top and bottom center of the pump drive headplate are exposed to the actual pump cavity pressures, and therefore reflect the absolute pressure differentials. Secondly, temperature stability must be maintained during the calibration. The laminar flowmeter is sensitive to inlet temperature oscillations which cause the data points to be scattered. Gradual changes (±2 °F) in temperature are acceptable as long as they occur over a period of several minutes. Finally, all connections between the flowmeter and the CVS pump must be absolutely void of any leakage.

During a CVS emissions test the measurement of these same pump parameters enables the user to calculate the flow rate from the calibration equation.

After the calibration curve has been obtained, a verification test of the entire system can be performed by injecting a known mass of gas into the system and comparing the mass indicated by the system to the true mass injected. An indicated error does not necessarily mean that the calibration is wrong, since other factors can influence the accuracy of the system.

Equipment:

The following list of equipment will be needed to perform this calibration procedure. Figure 1 illustrates a typical equipment arrangement used for calibration. All of the equipment involved should conform to the range and accuracy as specified in Figure 1.

Equipment List:

1. LFE—Laminar Flowmeter
2. Micromanometer
3. Thermometer
4. Timer
5. U-Tube Manometers
6. Temperature Indicator with type J Thermocouples
7. A variable flow restrictor with appropriate piping to connect the CVS pump and LFE.

After the system has been connected as shown in Figure 1, set the variable restrictor in the wide open position and run the CVS pump for twenty minutes. Record the calibration data.

CALIBRATION DATA MEASUREMENTS

Parameter	Symbol	Units	Tolerance
Barometric pressure (corrected)	P_B	"Hg	±.01 "Hg.